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CANADIAN FUNGI.

BY J. B. ELLIS & BENJAMIN M. EVERHART.

The Fungi here enumerated were received from Prof. John Macoun, Botanist to the Geological and Natural History Survey of Canada, and and were mostly collected during the summer of 1884. The collection, though small and consisting mostly of species already known, comprises some not heretofore recorded in this country.

UREDINEÆ.

PUCCINIA MESOMEGALA, B. & C.—On *Clintonia borealis*, Lake Ellen, Nipigon River, June.

PUCCINIA CONGREGATA, E. & H.—On *Mitella nuda*, islands in Lake Nipigon.

PUCCINIA ASTERIS, Duby, var. *PURPURASCENS*, C. & P.—On *Aster macrophyllus*, Lake Superior region.

PUCCINIA NARDOSMII, E. & E.—Sori numerous, hypophyllous, purplish brown, subconcentrically arranged in circular clusters about 4 mm. in diameter, soon naked. Spores rather variable in shape, elliptical to oblong and often more prominent on one side, scarcely constricted at the septum, 25–30 x 15–20 μ , often narrowed above, epispore smooth, thickened at the apex with a distinct, subhyaline papilla, pedicels about as long as the spores, fragile and easily deciduous.

On leaves of *Nardosmius* (*Petasites*) *palmaris*, Red Rock, Lake Superior, June.

The mostly smaller spores with smooth epispore and the more decided, clustered mode of growth would seem to sufficiently distinguish this from *P. Compositarum*, Schlect.

UROMYCES OROBI, Winter.—On *Lathyrus ochroleucus*, Long Portage, Nipigon river.

TRIPHAGMIUM CLAVELLOSUM, Berk.—On *Aralia nudicaulis*, Burnt Island, Nipigon river, July.

RÆSTELIA LACERATA, Tul.—On *Crataegus tomentosa*. Near Ottawa, August. Possibly these specimens are referable to *R. cornuta*, Tul. Some of them are certainly distinguishable with difficulty from that species.

ÆCIDIUM COMPOSITARUM, Mart.—On leaves of *Aster Lindleyanus*, Nipigon river, July. Another form (of this species?) on *Lactuca Canadensis* from the same locality has the æcidia densely clustered in patches $\frac{1}{2}$ cm. in diameter.

ÆCIDIUM GROSSULARIÆ, DC.—Lake Ellen, Nipigon river, June.

ÆCIDIUM RANUNCULACEARUM, DC.—On *Anemone nemorosa*, Nipigon river, July. This is the form distributed in N. A. F. 1003 a.

ÆCIDIUM ALBUM, Clinton.—On *Vicia Americana*, Nipigon river, July.

ÆCLÆTUM CALADII, Schw.—On *Ariscema triphyllum*, Ottawa, June.

ÆCIDIUM VIOLÆ, Schum.—On *V. renifolia*, Ottawa, June.

COLEOSPORIUM MINIATUM (Pers.)—On *Rosa blanda*, Red Rock, Lake Superior, June.

MELAMPSORA SALICINA, Lev. (Uredo.)—On willow leaves, Lake Nipigon, July.

UREDIOBTUSA, Strauss.—On *Potentilla gracilis*, Moose Jaw, N. W. Terr., May.

UREDIOGYROSA, Reb.—On leaves of *Rubus*.

UREDIOAGRIMONIÆ, DC.—Lake Nipigon, July.

CEOMA LUMINATUM, Schw.—On *Rubus triflorus*, Ottawa, June.

USTILAGO URCEOLORUM, Tul.—Fruit of *Carex siccata* and *C. canescens*, Lake Nipigon, June.

IMPERFECT FUNGI.

EXCIPULA CONGLUTINATA, E. & E. (in Bull. Wash. Coll. no. 1, p. 6.) Dead stems of *Ranunculus*. Cape Chudleigh. The specimens are in no way distinguishable from the original Mt. Paddo specimens.

EPHELIS BOREALIS, E. & E.—Stroma of a grayish buff color and of fine grumous texture, extending along and enveloping the leaf for about $\frac{1}{2}$ cm., after the manner of *Epichloe typhina*, Fr. Spores masses not numerous (2–5 on a stroma), innate, causing convex swellings which are at first covered by the superficial layer of the stroma but are at length exposed with an imperfect margin, appearing somewhat like a flat *Peziza*. Spores acicular, nearly straight or often bent in the middle, hyaline or pale yellowish, nucleolate (?), ends subobtusate, $15-25 \times \frac{3}{4} \mu$.

On leaves of living grasses, Nova Scotia, June, 1883. Possibly this may not prove sufficiently distinct from *E. Mexicana*, Fr., but that species is said to have a black stroma and infests the inflorescence of grasses.

LYCOPERDINEÆ.

LYCOPERDON ATROPURPUREUM, Vitt.—Ottawa.

SECOTIUM WARNERI, Pk.—Among rubbish in gardens, Ottawa.

MYCENASTRUM OREGONENSE, E. & E., Ottawa.

The following species of *Lycoperdon* apparently undescribed was

sent with a collection of lichens and mosses from Labrador, by Mr. L. M. Turner, to Mr. Everhart for determination.

LYCOPERDON TURNERI, E. & E.—Peridium obovate, 4–6 cm. in diameter, olive brown, rather firm, clothed with a coat of rather short subspinose-warts which finally fall off and leave the surface smooth. Sterile base distinct, about 1 cm. thick, passing gradually into the rather dense mass, dirty gray (when cleared of spores) capillitium without any definite columella. Spores globose, yellowish-olive, echinate-verrucose, 4–5 μ with a slight rudimentary pedicel. The peridium is contracted and subplicate below but not stipitate, and is finally irregularly ruptured above.

BOVISTA TABACINA, Sacc. Mich. II, p. 565.—Globose, rather large (4–5 cm.), nearly rootless. Peridium membranaceo-coriaceous, lead-colored, finally variously ruptured. Nucleus compact-lanose, elastic, tobacco-colored, composed or rather rigid, many times dichotomously branched, dark brown (atrofuligineis) threads, paler above, the larger branches 10–12 μ thick. Spores globose, minute, smooth, with a single nucleus, 3½–4 μ , yellow-olive with a minute rudimentary pedicel. On the ground, Canada. Le Metayer.

We have not seen this species, and copy the description from Michelia.

SPHÆRIACEÆ.

PODOSPHÆRA KUNZEI, Cda.—On leaves of young seedling elms, Ottawa.

PLEOSPORA HERBARUM (Pers.)—Dead stems of *Papaver nudicaulis*, Capé Chudleigh. Sporidia 30–35 x 16–18 μ .

PLEOSPORA HISPIDA, Niessl.—Dead stems of *Draba*, Digger's Island (Hudson Strait.) Perithecia 200–300 μ in diameter, fringed at base, with brown creeping threads and a few spreading hairs, ostiolum also surrounded with a fringe of brown, sparingly septate, spreading hairs 60–75 μ long. Asci 80–100 x 20–25 μ , contracted at base into a short pedicel. Sporidia oblong-elliptic, 5–7-septate and muriform, straw yellow at first, becoming dark brown, 20–26 x 10–13 μ , mostly constricted about the middle. Agrees well with Niessl's description and with the specimens in Rab-Winter's Fungi 2857, except that the hairs are not as evenly distributed over the perithecia which, excepting the basal and apical fringe are nearly bald. On the same stems are smaller perithecia filled with stylospores oblong-cylindrical, 3-septate, 20 x 4 μ .

SPHERELLA STELLARINEARUM, Karst.—On dead stems and leaves of *Stellaria longipes*, Cape Prince of Wales. Also on *Draba alpina*, Nottingham's Island, Hudson Strait. Sporidia 20–27 x 5–7 μ .

RHYTISMA SALICINUM, Pers.—Leaves of *Salix herbacea*.

LOPHOPERMIMUM ARUNDINACEUM (Schröd.)—On *Elymus mollis*, Digger's Island, Hudson's Strait.

NUMMULARIA PEZIZOIDES, E. & E., Bull. Torr. Bot. Club, XI, p. 74. Will have to be abandoned, being in fact not specifically distinct from *Nrepanda* (Fr.)

NEW SPECIES OF FUNGI.

BY J. B. ELLIS AND BENJAMIN M. EVERHART.

The following species which, so far as we know, have not hitherto been described, have been received from various localities.

CORTICIUM EPIGÆUM, E. & E.—Thin, white, uneven, subvelutinous, margin slightly byssoid. Internal structure similar to that of the preceding but less compact and lateral branches of the fertile hymenial threads, shorter and less distinctly subulate. Spores subglobose, smooth, about 5μ in diameter, consisting of a transparent, globose nucleus (3μ) enclosed in a membranaceous sack.

On the bare soil, July, 1884. Carpenter, no. 100.

CORTICIUM THELEPHOROIDES, E. & E.—Dirty, yellowish white, subferruginous within, surface tuberculose and subvelutinous. Substance about $\frac{1}{2}$ mm., thick, composed of closely compacted erect threads with many short, lateral branches, erect and subdichotomous above, the ultimate divisions subulate-pointed, and bearing the coarsely tubercular-roughened, globose, brownish, $5-7\mu$ spores. Margin concolorous, thin, and the whole closely adnate to the matrix. Outwardly bearing some resemblance to *C. ochroleucum*, Fr. var. *spumeum*, B. & Rav., but really quite distinct. On fir logs, July, 1884. Carpenter, no. 90.

LYCOPERDON LEPIDOPHORUM, E. & E.—Obovate or subglobose, large, 15 cm. high by 20 cm. broad. Peridium consisting of a thick outer bark or layer which breaks up and falls away in irregular shaped, subpolygonal fragments 3–4 cm. across and 1 mm. thick, with a thickened, white, areolate-marked, raised center of irregularly polygonal outline much like the scales on a turtle's back. When these scales fall off they reveal the thin, soft, paper-like, olive-brown inner peridium which again separates quite readily from the yellowish-olive mass of spores and capillitium. The dehiscence appears to be by the irregular rupturing and disappearance of the upper portion of the peridium. The capillitium is quite dense, filling the entire cavity of the peridium without any distinct sterile base, and consists of rather slender ($3-5\mu$) threads, nearly smooth and more or less dichotomously branched. Spores yellowish-olive, globose, strongly echinulate-warted, $4-5\mu$ in diameter, with only the rudiment of a pedicel.

Sent from Huron, Dakota, Sept. 1884, by Miss Nellie E. Crouch.

SCLERODERMA FLAVIDUM, E. & E.—At first entirely buried in the sand, but soon partially emerging and splitting at the apex in a stellate manner into 6–8 subtriangular lobes or teeth and exposing the snuff-brown mass of spores which are soon scattered by the wind and rain, leaving the cup-shaped peridium with its stellate-lobed, reflexed margin entirely empty. Spores globose, rough (coarsely echinulate) snuff-brown, $7-12\mu$ diameter, with a few branching filaments intermixed. Peridium depressed-globose, coriaceous, firm (3–4 cm.), light yellow, roughened

with innate, granular, minute rudimentary warts above, smoother and subplicate below, with strongly developed, yellowish roots forming a mass as large as the peridium itself, and which remain permanently fixed in the ground after the peridium itself has broken away.

In loose sand, Willow Grove, N. J., Oct. 1883. Abundant. Differs from *S. Geaster*, Fr., in its smaller size, yellow color, thinner peridium, larger spores and more strongly developed roots. From *S. vulgare*, Fr., it differs in its stellate dehiscence and subterranean mode of growth.

MYCENASTRUM OREGONENSE, E. & E.—Semi-subterranean, globose, coriaceous, milk-white and nearly smooth at first, becoming somewhat mealy with a few very faint rudimentary spines or imperfect tubercles at the apex, 4–6 cm. in diameter, subplicate below with a single short, cord-like root. Peridium brown and smooth when mature, rupturing irregularly above. Capillitium snuff-brown or grayish, collected in small, loose, globular masses which consist of stout, much branched threads, the branches running out with free ends which are more or less undulate or crisped, or occasionally subtuberculose or showing here and there rudimentary spines. The larger or main branches of the capillitium are 10–14 μ thick. Spores globose, snuff color, $3\frac{1}{2}$ –4 μ , smooth with only the rudiment of a pedicel.

In grassy ground, Coos Co., Oregon. “Appearing a few days after a rain.” May and June, 1884, W. S. Carpenter, no. 64. Sent also from Ottawa, Canada, by Prof. Macoun, and from northern Michigan by Prof. F. E. Wood.

In Grevillea, vol. 13, p. 6, Dr. Cooke proposes for this and the following species together with *M. lycoperdioides*, Cke., and *M. leiospermum*, Mont., the subgenus *Sterbeckia* to include the species with smooth spores and capillitium without spines.

MYCENASTRUM OHIENSE, Ell. & Morgan.—Peridium subglobose (3–3 $\frac{1}{2}$ cm.) coriaceous, olive-brown when mature, rupturing irregularly above, surface densely granulose, more coarsely so above, plicate below with a single, short, stout root and filled with the mass of clay-colored or grayish spores and capillitium which is attached to the inner surface of the peridium on all sides and runs gradually into the sterile cellular base which occupies $\frac{1}{2}$ – $\frac{2}{3}$ of the cavity. Spores nearly hyaline (under the microscope), ovate-globose, smooth, 3–3 $\frac{1}{2}$ μ in their longer diameter, on slender pedicels which are rather longer than the spores. The capillitium as in the preceding species is collected more or less distinctly into little loose balls (something as in *Arachnion album*, Schw.), main threads 6–7 μ thick, branches attenuated and showing here and there rudimentary spines and tubercles. Quite distinct from the preceding species in which, besides the other differences, the sterile base is almost obsolete.

Sent first from Mt. Carmel, Ill., by Dr. J. Schenck, Oct. 1881, and since found more abundantly in Ohio by Prof. A. P. Morgan who has also received from Florida what appears to be the sterile base of this

species which shows that the peridium becomes at length entirely smooth and then of a lighter color.

SCHIZOXYLON OCCIDENTALE, E. & E.—Perithecia gregarious or nearly so, depressed globose, white with a round, black disk or apothecium which is scarcely perforated. Hymenium cup-shaped, yellowish horn-color, of a waxy consistence. Asci very long, 200–300 μ and over by 6–8 μ wide, 8-spored, surrounded with numerous filiform, nucleolate paraphyses which are rather more slender than the long, filiform, sporidia which are nearly as long as the asci, 24–34 μ thick, somewhat attenuated above, multiseptate, hyaline, constricted at every alternate septum where they readily separate into short (6–15 μ) cylindrical segments with the ends rounded with a single septum across the middle. Possibly this may not be distinct from *S. alboatrum*, Rehm. Ascom. 478. The outward appearance is much the same, but that species is said to have sporidia multicellular, fragile, almost as if articulated (“fere ut articulata”) and 180 x 2 μ . If the same, Dr. Rehm’s specimens must be immature. From *S. Berkeleyanum*, Dur. & Lev. the Utah specimens differ in having the sporidia twice as thick.

CHÆTOMIUM VELUTINUM, E. & E.—Perithecia ovate, membranaceous, gregarious and more or less confluent, covered with a dense, even, velvety coat of rough, olive-black hairs, of which the apical ones are nearly straight and coarser, while those toward the base are finer and somewhat branched. Sporidia almond-shaped, brown, 11–12 x 6–7 μ . The asci were already dissolved so that their shape could not be seen. The general aspect is that of *Sphaeria hirsuta*, Fr., but the hairy coat is more dense and even. On a damp maple log, Aug. 1884, Carpenter, no. 98.

BULGARIA STRIATA, E. & E.—Imperfectly obconic, about 1 mm. high and 2–3 mm. broad, purplish liver-color with a flesh-colored tint, margin obtuse, slightly incurved and striate when dry. Asci 150 x 7 μ with a long, slender base. Paraphyses abundant, filiform, scarcely thickened above. Sporidia biserial in the upper part of the asci, fusiform-oblong, slightly curved, 12–14 x 3–3½ μ , with the endochrome imperfectly divided in the middle (probably becoming 1-septate). The whole when fresh is of a coriaceous-gelatinous texture, the receptacle showing much the same structure as in *Tremella*. The striate margin and more regular shape will distinguish this from *B. sarcoides*, Fr. On rotten wood. November, 1884.

PEZIZA (OTIDEA) DORATOPHORA, E. & E.—Subcaespitose, subglobose, with a small, circular opening at first, at length expanding but mostly one-sided, rufous or chestnut brown and echinate-granulose outside and narrowed below into a short subpubescent base, disk darker when fresh. Asci subcylindrical, sessile, 50–60 x 6–7 μ . The paraphyses consist of a thread-like base bearing a brown, lanceolate-cylindrical abruptly pointed head which is 20–30 μ long by 3–4 μ thick and at length 1–2-septate and easily separates from the slender base. Sporidia biserial, elliptical, 2-nucleate, subfuscous, 6–10 x 3–4 μ . The fibrose-cellular

substance of the cups is of a vinous purple color under the microscope. On old logs and stumps, White Mts., N. H., Sept. 1884. Miss S. Minns.

DIATRYPE MINIMA, E. & E.—Stroma cortical, formed of the scarcely altered substance of the bark, elliptical, 1–2 mm. in diameter, limited by a black circumscribing line which penetrates the wood beneath. Perithecia 8–12 in a stroma, lying in a single layer, globose (1.6–1.5 mm.) membranaceous with black, rather thick walls and short, obtuse ostioli, their apices papilliform, black and shining at first, then distinctly perforated with a rather broad opening. Asci cylindrical, 70–80 x 24–30 μ . Paraphyses obscure (or none?) Sporidia uniseriate, lying end to end, oblong-elliptical, 2-nucleate, yellowish, nearly hyaline, 5–7 x 2 μ . The black, scarcely projecting ostioli which dot the small tuberculiform stroma are visible through short, longitudinal cracks or chinks in the slightly elevated epidermis. On dead shoots and limbs of *Magnolia glauca*, Newfield, N. J., April, 1885. First noticed in December, 1881. Probably not uncommon but easily overlooked.

LEPTOSPHERIA HARKNESSIANA, E. & E.—Perithecia scattered or gregarious, at first covered by the epidermis, at length bare and superficial or nearly so, hemispherical, black, smooth, $\frac{1}{4}$ – $\frac{1}{2}$ mm. in diameter. Ostiolum short, cylindrical, with a large, circular opening. Asci cylindrical, 100–114 x 10–12 μ , 8-spored and surrounded with filiform paraphyses. Sporidia in a single series, lying end to end, elliptical, yellow-brown, 3-septate and constricted at the septa, 18–22 x 7–9 μ , obtusely pointed above and regularly rounded below. The perithecia are much like those of *Sphaeria subconica*, C. & P., but the ostiolum is shorter. On dead stems of "Columbo" (*Frasera*?) Emery Co., Utah, S. J. Harkness, no. 106.

SPHERIA (METASPHERIA) CAVERNOSA, E. & E.—Perithecia coriaceous, carbonaceous, black, rather thin walled, $\frac{1}{4}$ – $\frac{1}{2}$ mm. in diam., sometimes 2–3 united, at first covered by the fibres of the bark, the upper half at length projecting and nearly bare. Ostiolum subtuberculiform, obtuse, broad. Asci clavate-cylindrical, 80–115 x 12–15 μ , with filiform paraphyses. Sporidia uniseriate or partly bi-seriate above, rather acutely elliptical, endochrome 3-times divided, hyaline, 18–22 x 7–9 μ . The upper part of the perithecium at length falls away, leaving the black, cup-shaped, hemispherical base bedded in the bark. Closely allied to *S. leiostega*, Ell., which is scarcely distinct from *S. corticola*, Fekl. It differs however in its denuded perithecia, longer and broader asci, and rather longer sporidia. The sporidia of *S. leiostega* are mostly 14–18 x 7–8 μ , very few reaching 20 μ long, as stated in Torr. Bull. On bark of *Taxodium distichum*, Darien, Ga., H. W. Ravenel, 703.

SPHERIA (WINTERIA) CÆRULEA, E. & E.—Perithecia scattered, membranaceous, flattened, $\frac{1}{4}$ – $\frac{1}{2}$ mm. in diam., covered by the thin epidermis which is either soon partially ruptured or remains closely attached to the surface of the perithecia which are plainly visible through it. Ostiolum broad, papilliform, obtuse, collapsing when dry so that the perithecia

appear umbilicate. Asci 75—114 x 15—17 μ , oblong-cylindrical, abruptly contracted below into a short, stout base, and surrounded by filiform paraphyses. Sporidia 8 in an ascus, broad fusiform or clavate fusiform, narrowed below into an acute, awl-shaped base, yellowish, multiseptate (8—12) and submuriform, 30—35 x 7—8 μ . On bark of some living coniferous tree, Wash. Terr., leg. W. N. Suksdorf, 210 in part, com. C. J. Sprague.

SPHÆRIA (WINTERIA) RHUINA, E. & E.—Perithecia erumpent, densely gregarious, subseriate, subglobose, black ($\frac{1}{2}$ — $\frac{1}{4}$ mm.) membranaceous, thin and collapsing so as to become concave or patelliform. Ostiolum papilliform and mostly 4—5-stellate-cleft. Asci 45—60 x 7—8 μ , broadest in the middle. Paraphyses stout, linear, nucleolate. Sporidia biseriate, fusiform, yellowish, nucleolate, straight or slightly curved, sometimes strongly so, 20—25 x 2 $\frac{1}{2}$ —3 μ . On weather-beaten wood of *Rhus copallina*, Newfield, N.J., May, 1885.

ASTERINA PEARSONI, E. & E.—Perithecia minute (100 μ) flat, superficial, obscurely perforated above, of close, cellular structure, with a scanty, subradiating mycelium around the margin. Asci sessile, oblong, obtuse, 40 x 15 μ , without paraphyses. Sporidia biseriate, clavate-oblong, granular, becoming uniseptate and slightly constricted at the septum, 15—20 x 3 $\frac{1}{2}$ —4 $\frac{1}{2}$ μ , acute below, obtuse above, hyaline. Has much the same appearance as *A. Gaultherie*, Curtis. On living canes of cultivated blackberry, Vineland, N. J., May, 1885, Col. A. W. Pearson.

HARKNESSIA CAUDATA, E. & E.—Acervuli innate-erumpent, globose, at first entirely covered by the epidermis which is finally pierced with a circular opening revealing the mass of dark brown spores which at length ooze out in the form of a small black globule. Spores fusiform-elliptical, brown, 15—20 x 6—8 μ , on cylindrical, hyaline, 12—15 x 2 $\frac{1}{2}$ —3 μ basidia and with a bristle-like, hyaline, nearly straight or slightly curved apical appendage 15—25 μ long and not quite as stout as the basidia which remain permanently attached to the base of the spore. Apparently the stylosporous stage of *Valsa farinosa*, Ell. See Bull. Torr. Bot. Club, IX, p. 99. On dead oak leaves and twigs, Newfield, N. J.

HARKNESSIA HYALINA, E. & E.—Acervuli innate, subglobose ($\frac{1}{4}$ mm.) covered by the epidermis which is elevated and ruptured above (sometimes in a stellate manner), revealing the mass of spores which ooze out in a small, whitish globule. Spores oblong-fusiform, hyaline, or with a yellowish shade, 20—25 x 4—6 μ with a bristle-like, apical appendage, straight or slightly curved, 15—20 μ long; basidia short, cylindrical or subconical, 6—10 x 4 μ . The general appearance is much like that of *H. caudata*, E. & E., but the pustules are not as prominent. Varies from the type in its hyaline spores, but all the other characters are those of *Harknessia* as originally published by Cooke in Grevillea IX, p. 85.

PHYSALOSPORA QUERCIFOLIA, E. & E.—Perithecia $\frac{1}{4}$ — $\frac{1}{2}$ mm. in diameter, globose with a light colored nucleus, buried in the substance

of the leaf but prominent so as to show distinctly on both sides, covered by the epidermis which is slightly blackened and closely adherent to the perithecia, ostium papilliform, barely visible through the ruptured epidermis. The perithecia finally collapse more or less distinctly. Asci oblong, $75-80 \times 12 \mu$ with a short, abruptly contracted base. Sporidia biseriate, narrow-elliptical or broad-fusiform, granular, hyaline, $15-25 \times 6-8 \mu$. With *Harknessia hyalina*, E. & E., which is probably its stylosporous stage, on dry, dead oak leaves (*Q. coccinea*) still hanging on limbs cut off last season. Newfield, N. J., June, 1885.

ÆCIDIUM RÆSTELIOIDES, E. & E.—Hypophyllous, on slightly thickened, yellowish spots which finally become purplish. *Æcidia* clustered, subcircinate, $15-40$ in a group, hemispheric and closed at first, then campanulate or short-cylindrical with the margin about 6-cleft and a little spreading and finally lacerated to the base into narrow segments about 1 mm. long after the manner of *Ræstelia lacerata*, Tul. Spores pale, subglobose, about 22μ in diameter, with a thick, finely sculptured epispore giving the appearance of a broad, band-like margin around the spore. On leaves of *Sidalcea*, Spokane Co., Wash. Terr., W. N. Saksdorf, no. 144.

STEGANOSPORIUM CENANGIOIDES, Ell. & Rothrock.—Stroma erumpent, tuberculiform, then excavated and discoid above, the margin at length expanding so as to resemble a brown, thin substipitate *Peziza*. Spores broad, oblong-fusiform or ovate-oblong, endochrome $5-8$ times divided and muriform, $35-40 \times 10-15 \mu$, pedicellate. The expanded *Cenangium*-like stroma appears finally, in some cases at least, to produce the "Fusisporium Berenice" (N. A. F. 376.) The whole thing is a curious and rather anomalous production, the true nature of which is not yet well understood. On dead limbs of *Abies balsamea*, West Chester, Pa., Dr. J. T. Rothrock. See N. A. F. no. 1379.

SEPTONEMA SUBRAMOSUM, E. & E.—Effused, black, consisting of subfasciculate, erect, simple or branched closely, septate threads, $70-100 \mu$ long or more and $6-7 \mu$ thick. These threads are sometimes constricted at intervals as if composed of separate concatenated spores yet they separate but sparingly. The terminal cells are nearly hyaline. This is much like *S. toruloidea*, C. & E., differing principally in the threads not separating into separate spores. Possibly not distinct from *S. atrum*, Sacc., but we have no specimen of that species. On weather-beaten wood, Coos Co., Oregon, Feb. 1885, W. S. Carpenter, no. 28.

RHINOTRICHUM CARNEUM, E. & E.—Forms a loose, floccose stratum, dull white at first, then flesh-colored. Hyphæ coarse, fertile tips obtusely rounded, bearing the globose, delicately warted, 5μ spores on minute spicules. On bark, Coos Co., Oregon, W. S. Carpenter, no. 125.

DISTRIBUTION OF PUCCINIA HETEROSPORA.

BY A. B. SEYMOUR.

When the note on *Puccinia heterospora* in the Botanical Gazette, December, 1883, was prepared, the hosts known were *Sida triquetra*, *S. humilis*, *S. hirsuta*, *S. spinosa*, *S. rhombifolia*, *Abutilon Texense*, *A. parvulum* and *Anoda hastata*; and the localities, Illinois, Texas, Cuba, Ceylon, and South Africa.

A search through the Malvaceæ of the Gray Herbarium has revealed the following:

SIDA SUPINA, Key West, Florida, Feb. 1846, Regel (100).

S. PHYSOCALYX, Texas, 1847-8, Lindheimer (583).

S. HUMILIS, Moridabad, India, Dr. Thompson (325).

ABUTILON CRISPUM, Key Largo, S. Florida, May. A. H. Curtiss, Fl. Texano-Mexicana, Bolandier (2237). Maydallum, Sept. 18, Thurber (1030). San Luis Potosi, 1876, Schaffner (163).

A. TEXENSE, Santa Catalina Mts., Arizona, Apr. 1881, Lemmon. Sonora, Mex., 185, Thurber.

A. BOLANDIERI, San Fernando, Oct. 1835. Bolandier, Fl. Tex.-Mex. 3050.

A. SEDOIDES, San Luis Potosi, Mex., 1878, Parry & Palmer.

A. VILLIFERUM, McArthur river, Australia, Mueller.

ANODA HASTATA, Chili, Meyen,

GAYA SUBTRILOBA, San Luis Potosi, Mex., 1878, Parry & Palmer (92). Peru, Mathews (3236).

MALVAVISCUS DRUMMONDII, (only 1-celled spores seen). Texas, 1843, Lindhemier (25).

URENA, Fernando Po., Hooker's Niger Exp. 1843, Vogel (202).

NEW LITERATURE.

BY W. A. KELLERMAN.

CHARLES H. PECK.—“New Species of Fungi,” in the Bulletin of the Torrey Botanical Club, April, 1885.

Eleven new species are here described and a plate of figures illustrates three of them. They are as follows: *Boletus sphærosporus*, Pk. (Wisconsin); *Septoria astragalicola*, Pk., on living or languishing leaves of *Astragalus* (Arizona); *Puccinia tumidipes*, Pk. II and III, on living leaves of *Lycium Andersonii* (Arizona); *Puccinia globosipes*, Pk., on leaves of *Lycium Californicum* (California); *Puccinia Brickelliae*, Pk. II and III, on living leaves of *Brickellia* (Arizona); *Puccinia Pentstemonis*, Pk., on living leaves of *P. linarioides* (Arizona); *Puccinia Malvastri*, Pk., on living leaves of *Malvastrum* (Arizona); *Puccinia Viguieræ*, Pk.,

on leaves of *Viguiera* (New Mexico); *Uromyces Sophoræ*, Pk., on living leaves of *S. sericea* (New Mexico); *Ustilago Aristidæ*, Pk., spikelets of *Aristida* (El Paso, Texas); and *Uredo Jonesii*, Pk., living leaves of *Ribes* (New Mexico).

SACCARDO & BERLESE.—“*Miscellanea Mycologica*,” a small pamphlet in which are published the following species of North American fungi:

IRPEX FORMOSUS, Sacc.

Pilei definitely lateral, frequently two confluent, flabelliform, margin deeply incise-lobed, narrowed behind, pale alutaceous, 6—7 cm. long, membranaceo-coriaceous, flat, longitudinally substriate, scarcely discolored-zonate, with a shining, silky surface but almost glabrous. Teeth crowded, narrow, acute, incised, slightly connected by a narrow membrane at base, alutaceous.

On trunks, Mexico (Galeotti). Allied to *I. zonatus* and *I. incrustans*, but differs in its minute, crowded teeth.

CHROMOSPORIUM VITELLINUM, Sacc. & Ell.

Effused, pulveraceous, bright golden yellow. Conidia ellipsoid, $6\frac{1}{2}$ —7 x $4\frac{1}{2}$ —5 or globose, 5—6 μ , yellow.

On old *Polyporus* and on rotten wood adjacent, New Jersey.

FUSARIUM SCOLECOIDES, Sacc. & Ell.

Tufts arachnoid, subeffused, white, minute. Hyphæ long, simple or forked, 130—180 x 2 μ , subseptate, hyaline. Conidia narrowly fusoid, acute at each end, curved, 5-septate and variously nucleate, 70—80 x 3—4 μ hyaline.

On branches of *Robinia*, Bethlehem, Pa., E. A. Rau.

CONIOTHYRIUM ARTHURIANUM, Sacc & Berlese.

Perithecia gregarious, covered by the epidermis, globose-depressed, subpapillate, 1-6 mm. in diameter, black. Spores globose-ellipsoid, rounded at each end, 5—6 x 4—5 μ , pale olivaceous.

On herbaceous stems (*Cucurbita*?) Geneva, N. Y., with *Epicoccum neglectum*, Prof. J. C. Arthur.

MARTINDALIA, Sacc. & Ell., nov. gen.

[Dedicated to Isaac C. Martindale, the well known phænogamic botanist, of Camden, N. J.]

Stipe (or stroma) subterete, formed of compacted, filiform, hyaline threads. Fertile hyphæ projecting from the apex of the stipe and forming a loose head, threads loosely involute and laterally nodulose, bearing the hyaline, globose conidia along their sides. Differs from *Stilbum* and *Isaria* in the absence of mucus and in the spirally convolute, fertile threads.

MARTINDALIA SPIRONEMA, Sacc. & Ell.

White throughout, stipes 1—2 mm. high, thickened at the base, terminating above in an oval head, not pulverulent or mucose. Fertile hyphæ or basidia long, continuous, 2—3 μ diameter, hyaline, spirally involute above, with minute, lateral teeth. Conidia globose, 5—6 μ , with a single nucleus, hyaline or pale rose color.

On elm barrel staves in a cellar, Newfield, N. J., June, 1884.

[TO BE CONTINUED.]

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